

Remarks

Claims 1-13 were pending. Claims 1, 9, and 11 have been amended, claim 10 has been cancelled, and claims 14-17 have been added. Claim 13 has been indicated as having allowable subject matter. Applicants respectfully request reconsideration of the outstanding rejections and passage of the claims to allowance based on the following remarks.

§ 112 Rejections

Claim 1 has been rejected under section 112 for including recitations that are indefinite, including “acceptable surface” and “acceptable apertures.” This language has been deleted from the claim. Accordingly, this rejection may now be withdrawn.

§ 103 Rejections

Claims 1-9 and 12 were rejected under 35 USC § 103(a) as being unpatentable over Barber (U.S. 6,179,887) in view of Barber (U.S. 5,616,411). Claims 10-11 were rejected as being unpatentable over Barber in view of Johnson (U.S. 6,261,156). Applicants respectfully traverse these rejections to the extent they may apply to the currently pending claims.

Amended claim 1 recites, in part, refining the surface to provide a copper surface having a surface finish of 0.05 to 0.3 micrometer Ra. These recitations were previously presented in now cancelled claim 10. In rejecting claim 10, the Office Action conceded that Barber failed to disclose such recitations but that Johnson disclosed the recitations in Tables 2-7. Applicants respectfully disagree.

Johnson fails to disclose these recitations for at least several reasons. Initially, it should be noted that claim 1 recites refining a copper surface. Johnson does not disclose refining a copper surface. Thus, Johnson fails to account for these recitations for at least this reason. Next, Johnson discloses a minimum Ra of 6.7 microinches (on aluminum), while the claim recites a minimum of the range being .05 micrometers, which converts to 1.97 microinches, a much finer Ra than the 6.7 microinches of Johnson. Thus, Johnson falls well short of disclosing that the surface finish has an Ra ranging down to .05

micrometers in addition to failing to disclose that the surface finish is provided on copper. Thus, claim 1 includes recitations not disclosed by the cited references for at least these reasons, and therefore, claim 1 is allowable over the cited combination.

Claims 2-9 and 11-13 depend from an allowable base claim and are also allowable over the cited combination of references for at least the same reasons. Furthermore, one or more of these dependent claims includes additional features not disclosed by the cited combination. For example, claim 9 recites that the cross-section of the bristle is trapezoidal. Barber only shows that the side view of the bristle is trapezoidal in Figure 7 and does not disclose a trapezoidal cross-section of a bristle such that claim 9 is allowable for this additional reason. Furthermore, regarding claim 12, there is no disclosure in the cited references of refining a copper surface having apertures while having the apertures be unclogged. Interestingly, the Office Action does not provide any specific discussion of the recitations of claim 12 and where those recitations can be found in the cited references and as those references do not disclose such recitations, claim 12 is allowable for this additional reason.

New claims

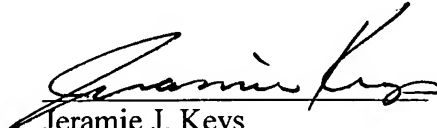
New claims 14-17 are now presented for examination. Independent claim 14 includes recitations similar to those of claim 12, which as noted above, are not disclosed by the cited references. Independent claim 16 includes recitations similar to those of claim 13, and Applicants assert that the recitations of claim 16 include allowable subject matter.

Conclusion

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration of the application after final is requested. Please contact the undersigned should there be any questions or in order to expedite prosecution.

Respectfully submitted,

Date: January 3, 2006


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